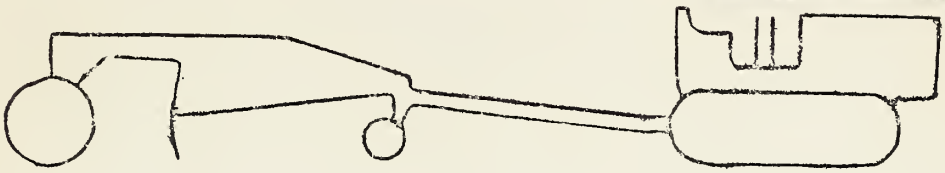
CONSTRUCTION



HINTS

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE

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Mr. G. W. Duncan, Equipment Engineer, Region 1, sends the following hints:

Use of Trailbuilder as Snow Plow Unit:

The trailbuilder is an effective snow plow unit especially on work roads, around camps and where the snow is not over two feet in depth. To increase the height of the mold board, extensions have been put on top on the same curve as the moldboard to give it a height of 44 inches. Grading shoes of cast iron with replaceable steel runners were bought to be put on the side channels which completed the snow plow attachment. These shoes originally cost $40.00 when purchased from manufacturers. We now make them up in our own shop at a cost of $18.00 a pair. The extensions are also made up in our own shops. About 30 of these units will be in use this winter on CCC and ERA jobs. Drawings are available if anyone is interested.

Heat Treating Detachable Drill Bits:

Prior to tempering detachable drill bits, care had to be exercised in grinding not to burn them, and the result was a great many bits that were unserviceable due to being either too soft or too hard. The Region has therefore set up heat treating plants, one small hand tempering outfit in the Missoula shop and an oil treating muffler furnace in the Spokane shop. In Spokane 600 bits a day and in Missoula 300 bits a day are tempered. It is unnecessary now to pay any attention to burning when grinding the bits, they are forced through and heat treated later to get them to the proper hardness. The treatment is practically the same method used by the Timkin Company. Three different types of bit grinders are in use, Marberg, Ingersoll-Rand and Blount. The Blount grinder is the most efficient of the three; with it two men can grind 300 bits per day.

(over)

TURNING TRACTOR TRACK BUSHINGS AND PINS
Submitted by Region 8

Instead of wearing out track bushings and pins to complete failure, the bushings are worn down elliptical on the side in contact with the sprockets, and when worn down to a thickness of approximately 1/16 to 1/8 of an inch, the track shoes are removed and the track is taken to a shop equipped with a hydraulic press. The pins and bushings are pressed out and turned 180 degrees and pressed back into the track. This exposes full thickness of the bushing and an unworn side of the pin to the direction of pull and wear, and after turning the pins and bushings the track can then be used and the pins and bushings worn to complete failure. This increases the life of the pins and bushings about 60 to 80 per cent, and the only cost is that of labor in turning the pins and bushings.

It is assumed that most shops are equipped with hydraulic press of at least 60-ton capacity. It would hardly be economical to send the track to a commercial plant for turning the pins and bushings, but the practice is to have a Foreman and two or three enrollees take the track to the shop and assist in the operation.

If a complete runway for extending the track through the press and permitting pressing out pins and bushings at any point along the track is available, the pins and bushings can be pressed out, turned and pressed back into the track without completely disassembling the track. If a runway (such as a steel channel) only extends from one side up to the press permitting building on or taking off links, i.e., operating only one end of the track, then it is necessary to completely disassemble the track and reassemble it, putting in the pins and bushings turned 180 degrees from the previous position.

CUT-SLOPE ROD
Designed by G. G. Sanders, Nantahala N. F., Region 8

On page 4 of the December 28th issue was shown an illustration of the cut-slope rod. No explanation was given as to how it was to be used. The following explanation is very clear:

> "This device was designed on the Nantahala for determining tangent distances for rounding off the tops of slopes on a five foot radius, and a five foot radius curve template is used in conjunction with this. The two arms of the device are laid along the cut bank and ground slope and the tangent distance to be laid off along each arm is read on the half circle.
>
> "While extreme accuracy is not sought in rounding off these slopes, the use of this device and a five foot radius template permits securing more uniform results with CCC or other ordinary labor without requiring the services of a locator or other technician."

C O N T R I B U T I O N S

By T. W. Norcross, Chief, Division of Engineering.

The proposal of the Washington Office to prepare and circulate "Construction Hints" was heartily endorsed by the field offices. But the success of this activity is dependent upon the cooperation of the field in sending in material that it is believed may help out some other fellow somewhere in the Service. Comparing the troubles of the editor of "Construction Hints" with those of editors of other Forest Service publications, it appears that the response of the field has been fairly satisfactory. But it could be better and if better, the value of "Construction Hints" would be increased.

Last summer on my Western field trip I urged the Regional Engineers, Construction Superintendents, foremen and others to send in a brief description of some method, device or kink which they had developed or discovered. The reaction varied. Most promised to send material. Some thought the matter too trivial or of too little value to be of service to others. Others were "too busy". Still others were bashful or modest and felt that others would consider sending in an item, "self-promotion" and would resent the action. Again I saw evidence of "separatism".

Although my efforts and those of the Editor have been fruitful, difficulty still exists in getting the number of contributions necessary to making "Construction Hints" as valuable and useful as it should be and can be.

Let's look at some of the reasons given -

"Too trivial or too little value". Why not let the Regional Engineer or the Editor decide. The chances are they will not agree.

"Too busy". This really means laziness in some cases, but more often the exercise of a preference. In other words a decision that the available time could better be used on some other work. It would be well to make a new weight determination. Maybe the past judgment was faulty. In certain cases I know it was.

"Self-promotion". I want to see full credit given and to encourage betterment. If thought that some one else is striving only to publicize himself, all he has to do in defense of himself is to send in as many or more items for "Construction Hints".

"Separatism". One of my main objectives for this year is a sharp increase in coordination, correlation and cooperation. In other words, a change from individualims - project, Forest, Region or Washington - to a united pulling together for the good of the Service as a whole.

Following are instructions covering storage and care of machinery during the winter months, issued by the Regional Engineer of Region 1:

Storage of Equipment

Motors - Drain motors of machines stored for winter.

Take out spark plugs, put two tablespoons of #1075 oil in each cylinder, then turn motor over two or three times by hand slowly, and put spark plugs back in.

Drain carburetors and settling bulbs.

Radiators - Drain all radiators. Save prestone for use in spring.

Batteries - Take out and place in storage so batteries will not run down.

Magnetos - Unless machines are in dry storage, remove magnetos and store in a warm place so moisture will be kept off.

Tools - Lock up tools so they will not be stolen.

Exhaust Pipes - Put can over end of all exposed exhaust pipes to keep water out.

Greasing - Grease thoroughly with grease gun any machine stored for the winter. Grease grader and trailbuilder moldboards to prevent rust.

Monarch Tractors - Drain chain housings.

Adams Graders - Remove plug from bottom of control box to allow water to drain out. Water is collected in the control boxes and if left without draining, the box will freeze up and burst. When storing these graders outside, cover the control box carefully so water will not collect in it.

Miscellaneous - Additional instructions regarding care of equipment during cold weather are included in your book of instructions. Please read these and follow them carefully.

When storing crawler-type tractors in sheds where there is any chance of water getting in around the track rollers, be sure to ditch the water away and put the tractor up on skids. If tractors are allowed to stand with rollers in water all winter, the track roller bearings will be rusted and will soon give trouble when the machine is put back into service in the spring.